

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. Please cancel claims 2, 3, 11, 15, 20, and 22-36. Please amend claims 1, 8, 12, and 18, and add claims 37-51, as follows:

Listing of Claims:

1. (Currently amended) A method of responding to a read request in a system memory having a responding memory hub and at least one interposing memory hub through which a read response is transmitted on a data path of the interposing memory hub, the method comprising:

retrieving read data from a memory device coupled to the responding memory hub and preparing a read response including the read data;

generating an arbitration packet including data indicative of a data path configuration for the read response, the arbitration packet having a plurality of 8-bit bytes including at least one byte including data used by the interposing memory hub to distinguish the arbitration packet from a read response;

providing the arbitration packet and the read response to the interposing memory hub, the arbitration packet provided prior to the read response; and

receiving the arbitration packet at the interposing memory hub, decoding the data of the arbitration packet and enabling a data path for the read response in the interposing memory hub in accordance with the data of the arbitration packet.

2. (Cancelled)

3. (Cancelled)

4. (Original) The method of claim 1 wherein enabling the data path for the read response comprises enabling a bypass data path in the interposing memory hub to couple the arbitration packet and read response through the interposing memory hub.

5. (Original) The method of claim 1, further comprising:  
determining whether the interposing memory hub is busy; and  
in the event that the interposing memory hub is not busy, generating the arbitration packet for provision to the interposing memory hub prior to providing the associated read response to the interposing memory hub.

6. (Original) The method of claim 1, further comprising:  
determining whether a local data path of the responding memory hub is idle;  
in the event that the local data path is idle, generating the arbitration packet for provision to the interposing memory hub prior to providing the associated read response to the interposing memory hub.

7. (Original) The method of claim 1 wherein generating the arbitration packet comprises generating an arbitration packet including data indicative of enabling a bypass data path in the interposing memory hub for coupling the arbitration packet and read response through the interposing memory hub.

8. (Currently amended) A method of transmitting a read response on a data path of a memory hub interposed between a transmitting memory hub and a receiving memory hub, the method comprising:

receiving a query from the transmitting hub whether the memory hub is busy and responding to the query by indicating to the transmitting hub that the memory hub is not busy;

receiving at the memory hub an arbitration packet including data indicative of a data path configuration for an associated read response;

decoding the arbitration packet;

configuring the data path in accordance with the data of the arbitration packet;

receiving the associated read response at the memory hub; and

coupling the associated read response to the configured data path for transmitting the same to the receiving memory hub.

9. (Original) The method of claim 8 wherein configuring the data path comprises enabling a bypass data path in the memory hub to couple the arbitration packet and read response through the memory hub to the receiving memory hub.

10. (Original) The method of claim 8, further comprising coupling the arbitration packet to the configured data path for transmitting the same to the receiving memory hub prior to transmitting the associated read response.

11. (Cancelled)

12. (Currently amended) A method of configuring a data path of a memory hub through which a read response is provided, the method comprising:

generating at a first memory hub an arbitration packet including data indicative of a data path configuration for an associated read response;

determining whether a second memory hub coupled to the first memory hub is busy;

in the event that the second memory hub is not busy, providing the arbitration packet to the [[a]] second memory hub coupled to the first memory hub prior to providing the associated read response to the second memory hub;

decoding the arbitration packet at the second memory hub; and

configuring a data path of the second memory hub in accordance with the data of the arbitration packet in preparation of receiving the associated read response.

13. (Original) The method of claim 12 wherein generating an arbitration packet comprises generating data for the arbitration packet that is used to distinguish the arbitration packet from a read response.

14. (Original) The method of claim 12 wherein configuring the data path comprises enabling a bypass data path in the second memory hub to couple the arbitration packet and read response through the second memory hub.

15. (Cancelled)

16. (Original) The method of claim 12, further comprising:

determining whether a local data path is idle;

in the event that the local data path is idle, generating the arbitration packet for provision to the second memory hub prior to providing the associated read response to the second memory hub.

17. (Original) The method of claim 12 wherein generating the arbitration packet comprises generating an arbitration packet including data indicative of enabling a bypass data path in the second memory hub for coupling the arbitration packet and read response through the second memory hub.

18. (Currently amended) A method of communicating between a first and second memory hub for configuring a data path in the second memory hub, the method comprising:

generating an arbitration packet for an associated read response to be coupled through the second memory hub, the arbitration packet having a command code field including data identifying that it is an arbitration packet and further having a data path field including data indicative of a data path configuration in the second memory hub;

determining whether the second memory hub is busy;

in the event that the second memory hub is not busy, transmitting the arbitration packet prior to transmitting the associated read response to the second memory hub; and

configuring the data path in the second memory hub in accordance with the data included in the data path field.

19. (Original) The method of claim 18 wherein configuring the data path comprises enabling a bypass data path in the second memory hub to couple the arbitration packet and the associated read response through the second memory hub.

20. (Cancelled)

21. (Original) The method of claim 19, further comprising:  
determining whether a local data path is idle;

in the event that the local data path is idle, generating the arbitration packet for provision to the second memory hub prior to providing the associated read response to the second memory hub.

22-36. (Cancelled)

37. (New) A method of responding to a read request in a system memory having a responding memory hub and at least one interposing memory hub through which a read response is transmitted on a data path of the interposing memory hub, the method comprising:

retrieving read data from a memory device coupled to the responding memory hub and preparing a read response including the read data;

generating an arbitration packet including data indicative of a data path configuration for the read response;

determining whether the interposing memory hub is busy;

in the event that the interposing memory hub is not busy, providing the arbitration packet and the read response to the interposing memory hub, the arbitration packet provided prior to the read response; and

receiving the arbitration packet at the interposing memory hub, decoding the data of the arbitration packet and enabling a data path for the read response in the interposing memory hub in accordance with the data of the arbitration packet.

38. (New) The method of claim 37 wherein generating an arbitration packet comprises generating data for the arbitration packet that is used to distinguish the arbitration packet from a read response.

39. (New) The method of claim 37 wherein enabling the data path for the read response comprises enabling a bypass data path in the interposing memory hub to couple the arbitration packet and read response through the interposing memory hub.

40. (New) The method of claim 37, further comprising:  
determining whether a local data path of the responding memory hub is idle;  
in the event that the local data path is idle, generating the arbitration packet for provision to the interposing memory hub prior to providing the associated read response to the interposing memory hub.

41. (New) The method of claim 37 wherein generating the arbitration packet comprises generating an arbitration packet including data indicative of enabling a bypass data path in the interposing memory hub for coupling the arbitration packet and read response through the interposing memory hub.

42. (New) A method of responding to a read request in a system memory having a responding memory hub and at least one interposing memory hub through which a read response is transmitted on a data path of the interposing memory hub, the method comprising:

retrieving read data from a memory device coupled to the responding memory hub and preparing a read response including the read data;

determining whether a local data path of the responding memory hub is idle;

in the event that the local data path is idle, generating an arbitration packet including data indicative of a data path configuration for the read response for provision to the interposing memory hub;

providing the arbitration packet and the read response to the interposing memory hub, the arbitration packet provided prior to the read response; and

receiving the arbitration packet at the interposing memory hub, decoding the data of the arbitration packet and enabling a data path for the read response in the interposing memory hub in accordance with the data of the arbitration packet.

43. (New) The method of claim 37 wherein generating an arbitration packet comprises generating data for the arbitration packet that is used to distinguish the arbitration packet from a read response.

44. (New) The method of claim 37 wherein enabling the data path for the read response comprises enabling a bypass data path in the interposing memory hub to couple the arbitration packet and read response through the interposing memory hub.

45. (New) The method of claim 37 wherein generating the arbitration packet comprises generating an arbitration packet including data indicative of enabling a bypass data path in the interposing memory hub for coupling the arbitration packet and read response through the interposing memory hub.

46. (New) A method of configuring a data path of a memory hub through which a read response is provided, the method comprising:

determining whether a local data path is idle;

in the event that the local data path is idle, generating at a first memory hub an arbitration packet including data indicative of a data path configuration for an associated read response for provision to the second memory hub prior to providing the associated read response to the second memory hub;

providing the arbitration packet to a second memory hub coupled to the first memory hub;

decoding the arbitration packet at the second memory hub; and

configuring a data path of the second memory hub in accordance with the data of the arbitration packet in preparation of receiving the associated read response.

47. (New) The method of claim 46 wherein generating an arbitration packet comprises generating data for the arbitration packet that is used to distinguish the arbitration packet from a read response.

48. (New) The method of claim 46 wherein configuring the data path comprises enabling a bypass data path in the second memory hub to couple the arbitration packet and read response through the second memory hub.

49. (New) The method of claim 46 wherein generating the arbitration packet comprises generating an arbitration packet including data indicative of enabling a bypass data path in the second memory hub for coupling the arbitration packet and read response through the second memory hub.

50. (New) A method of communicating between a first and second memory hub for configuring a data path in the second memory hub, the method comprising:

determining whether a local data path is idle;

in the event that the local data path is idle, generating an arbitration packet for an associated read response to be coupled through the second memory hub for provision to the second memory hub, the arbitration packet having a command code field including data identifying that it is an arbitration packet and further having a data path field including data indicative of a data path configuration in the second memory hub;

transmitting the arbitration packet prior to transmitting the associated read response to the second memory hub; and

configuring the data path in the second memory hub in accordance with the data included in the data path field.

51. (New) The method of claim 50 wherein configuring the data path comprises enabling a bypass data path in the second memory hub to couple the arbitration packet and the associated read response through the second memory hub.